

REMARKS

This is a full and timely response to the non-final Office Action of July 7, 2009.

Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested.

Upon entry of this Third Response, claims 1-20, 22, 23, 25-28, 31, and 32-35 are pending in this application, and claims 1-20, 22, 23, 25-28, and 31-35 are allowed. Claims 7, 20, 23, 27, and 34 are directly amended. It is believed that the foregoing amendments add no new matter to the present application.

Response to §103 Rejections

In order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, e.g., *In Re Dow Chemical Co.*, 837 F.2d 469, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 642 F.2d 413, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). In addition, "(t)he PTO has the burden under section 103 to establish a *prima facie* case of obviousness." *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988).

Claim 7

Claim 7 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over the admitted prior art in view of *Xu* (U.S. Patent No. 7,181,142). Claim 7 reads as follows:

7. A data communication system having a central office transceiver residing at a central office and an intermediate terminal transceiver residing at an intermediate terminal, the central office and intermediate terminal transceivers coupled through a feeder distribution interface to customer transceivers, comprising:
means for determining a distance between the intermediate terminal transceiver and the feeder distribution interface and a distance between the central office transceiver and the feeder distribution interface; and
means for automatically determining a distance between the intermediate terminal transceiver and one of the customer transceivers based on a signal communicated between the intermediate terminal transceiver and the one customer transceiver, the one customer transceiver residing at a customer premises; and
means for selecting a transmission power level of the intermediate terminal transceiver based on each of the distances and for controlling the intermediate terminal transceiver such that the intermediate terminal transceiver transmits a signal at the selected power level. (Emphasis added).

Applicants respectfully assert that the cited art fails to suggest at least the features of pending claim 7 highlighted hereinabove.

In rejecting claim 7, it is asserted in the Office Action that:

"*Xu* teaches (col. 13, line 29 – col. 14, line 10) power reduction means for automatically reducing a transmission power of the intermediate terminal transceiver, based on each of the determined distances, in order to ensure that signals are spectrally compatible. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the admitted prior art to include *Xu*'s power reduction to maintain balance in power."

The balance in power allegedly maintained by *Xu* apparently refers to controlling the transmission power levels of the ONU's 400 so that the power level of each signal received by a star coupler (measured at the input of the star coupler) is the same. Accordingly, it is apparently the position of the Patent Office that the admitted prior art should be modified, according to *Xu*, so that the signals transmitted from the central office and the intermediate terminal arrive at the "feeder

distribution interface” at the same power level. However, in such a hypothetical combination, the power level for any “intermediate terminal transceiver” is not based on each of the “distances” recited in claim 7.

In this regard, claim 7 specifically recites one of the “distances” as being “between the intermediate terminal transceiver and one of the customer transceivers” and determined “based on a signal communicated between the intermediate terminal transceiver and the one customer transceiver.” In order for a signal transmitted by the “intermediate terminal transceiver” to have the same power level at the “feeder distribution interface” as a signal transmitted by a “central office transceiver” in the hypothetical combination of the admitted prior art and *Xu*, the power level selected by the “intermediate terminal transceiver” would be presumably based on the distance between the “intermediate terminal transceiver” and the “feeder distribution interface” and specifically **not** the distance between the “intermediate terminal transceiver” and the “one customer transceiver.” Indeed, *Xu* specifically teaches that the power balancing for a given ONU is based on “the ONU-to-coupler distance.” Column 13, line 44. Thus, even if it is assumed for the sake of argument that the alleged combination of the admitted prior art and *Xu* is proper, the alleged combination nevertheless fails to suggest at least “means for automatically determining a distance between the intermediate terminal transceiver and one of the customer transceivers based on a signal communicated between the intermediate terminal transceiver and the one customer transceiver” and “means for selecting a transmission power level of the intermediate terminal transceiver based on each of the distances and for controlling the intermediate terminal transceiver such that the intermediate terminal transceiver transmits a signal at the selected power level,” as recited by claim 7.

For at least the above reasons, Applicants respectfully assert that the alleged combination of the admitted prior art and *Xu* is inadequate for suggesting each feature of claim 7, as amended. Accordingly, the 35 U.S.C. §103 rejection of claim 7 should be withdrawn.

Claim 8

Claim 8 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over the admitted prior art in view of *Xu* and further in view of *Ulanskas* (U.S. Patent No. 6,532,277). Applicants submit that the pending dependent claim 8 contains all features of its independent claim 7. Since claim 7 should be allowed, as argued hereinabove, pending dependent claim 8 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 20

Claim 20 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over the admitted prior art in view of *Xu*. Claim 20 reads as follows:

20. A method for providing spectrum management in a data communication system having central office transceivers and intermediate terminal transceivers coupled through a feeder distribution interface to customer transceivers, the method comprising the steps of:

determining a first distance between one of the central office transceivers and the feeder distribution interface, the one central office transceiver residing at a central office;

determining a second distance between one of the intermediate terminal transceivers and the feeder distribution interface, the one intermediate terminal residing at an intermediate terminal;

automatically determining a third distance between the one intermediate terminal transceiver and one of the customer transceivers, the one customer transceiver residing at a customer premises; and

ensuring spectral compatibility between signals transmitted by the one intermediate terminal transceiver and signals transmitted by the one central office transceiver, the ensuring step comprising the step of automatically controlling, based on each of the determined distances, a transmission power of the one intermediate terminal transceiver. (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 7, Applicants respectfully submit that the cited art fails to suggest at least the features of claim 20 highlighted above. Thus, the 35 U.S.C. §103 rejection of claim 20 should be withdrawn.

Claim 22

Claim 22 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over the admitted prior art in view of *Xu* and further in view of *Ulanskas*. Applicants submit that the pending dependent claim 22 contains all features of its independent claim 20. Since claim 20 should be allowed, as argued hereinabove, pending dependent claim 22 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 27

Claim 27 presently stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over the admitted prior art in view of *Xu* and further in view of *Ulanska*. Claim 27 reads as follows:

27. A communication method, comprising the steps of:
transmitting a signal from an intermediate terminal transceiver through a cable to a first customer transceiver residing at a first customer premises, the cable coupled to a feeder distribution interface that is coupled to the intermediate terminal transceiver and a central office transceiver, the cable propagating at least one signal transmitted from the central office transceiver, the intermediate terminal transceiver residing at an intermediate terminal and the central office transceiver residing at a central office;
ensuring spectral compatibility between signals transmitted by the intermediate terminal transceiver and signals transmitted by the central office transceiver to a second customer transceiver residing at a second customer premises, the ensuring step comprising the step of automatically controlling a power output of the intermediate terminal transceiver; and
estimating a distance between the intermediate terminal transceiver and the first customer transceiver based on at least one signal transmitted between the intermediate terminal transceiver and the first customer transceiver, wherein the controlling step is based on the estimated distance, a distance between the intermediate terminal transceiver and the feeder distribution interface, and a distance between the central office transceiver and the feeder distribution interface. (Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 7, Applicants respectfully submit that the admitted prior art and *Xu* fails to suggest at least the features of claim 27 highlighted above. In addition, it is asserted in the Office Action that *Ulskas* “teaches (col. 4, lines 36-49) estimating distances based on a test signal.” However, the cited art provides no motivation or reason for estimating “a distance between the intermediate terminal transceiver and the first customer transceiver” and then using this estimated “distance” to control the power output of the “intermediate terminal transceiver.” Indeed, as set forth above in the arguments for allowance of claim 7, the power output of the “intermediate terminal transceiver” in the hypothetical combination would not be based on the distance between the “intermediate terminal transceiver” and the “first customer transceiver” but rather would be based on the distance between the “intermediate terminal transceiver” and the “feeder distribution interface.” Thus, even if it would be obvious to use the techniques allegedly taught by *Ulskas* to estimate distances, the cited art nevertheless fails to suggest at least the highlighted features of claim 27. Thus, the 35 U.S.C. §103 rejection of claim 27 should be withdrawn.

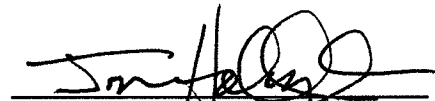
CONCLUSION

Applicants respectfully request that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted,

LANIER FORD SHAVER & PAYNE, P.C.

By:


Jon E. Holland
Reg. No. 41,077

2101 W. Clinton Avenue, Suite 102
Huntsville, Alabama 35805
(256) 713-2264